

IN THE CLAIMS:

1. (Cancelled)

2. (Currently Amended) A solar cell module in accordance with claim [[1]]36 wherein said one or more solar cells is either a wafer or a thin film and ~~wherein said solar cell is~~ made from a semi-conductor material.

3. (Currently Amended) A solar cell module in accordance with claim [[1]]36 wherein said one or more solar cells is a wafer and ~~wherein said solar cell is~~ made from a semi-conductor material that is polycrystalline or single crystal silicon.

4. (Currently Amended) A solar cell module in accordance with claim [[1]]36 wherein said one or more solar cells is a thin film and ~~wherein said solar cell is~~ made from a semi-conductor material that is thin film silicon or copper indium gallium diselenide.

5. (Cancelled)

6. (Currently Amended) A solar cell module in accordance with claim [[1]]37 wherein ~~said cured liquid silicone encapsulant is formed from a liquid silicone encapsulant composition which comprises:~~

~~Component (A) 100 parts by weight of a liquid diorganopolysiloxane having at least two Si-alkenyl groups per molecule and a viscosity at 25°C of from 100 to 15,000 mPa.s;~~

~~Component (B) 20 to 50 parts by weight of a silicone resin containing at least two alkenyl groups;~~

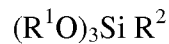
~~Component (C) a cross linking agent in the form of a polyorganosiloxane having at least two silicon-bonded hydrogen atoms per molecule, in an amount such that the ratio of the number of moles of silicon-bonded hydrogen to the total number of moles of silicon-~~

bonded alkenyl groups in component (A) of said liquid silicone encapsulant composition is from 0.1:1 >1:1 to 5: 1; ~~and~~

~~Component (D) a hydrosilylation catalyst wherein the amount of metal in said hydrosilylation catalyst is from 0.01 to 500 parts by weight per 1,000,000 parts by weight of component (A).~~

7. (Cancelled)

8. (Previously Presented) A solar cell module in accordance with claim 6 wherein said liquid silicone encapsulant composition additionally comprises one or more adhesion promoter(s) and/or an anti-soiling agent(s) and/or cure inhibitor(s) and/or a silane of the formula:



wherein R^1 is an alkyl group comprising 1 to 6 carbon atoms, R^2 is selected from the group of an alkoxy group comprising 1 to 6 carbon atoms, an alkyl group comprising 1 to 6 carbon atoms, an alkenyl group comprising 1 to 6 carbon atoms, an acrylic group or an alkyl acrylic group.

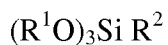
9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) A solar cell module in accordance with claim ~~[[1]]36~~ wherein the ratio of the number of moles of silicon-bonded hydrogen to the total number of moles of silicon-bonded alkenyl groups in component (Ai) is <1:1.

13. (Currently Amended) A solar cell module in accordance with claim ~~[[1]]36~~ wherein said ~~liquid-silicone-encapsulant~~ adhesive composition additionally comprises an adhesion promoter and/or a cure inhibitor and/or a silane of the formula:



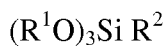
wherein R¹ is an alkyl group comprising 1 to 6 carbon atoms, R² is selected from the group of an alkoxy group comprising 1 to 6 carbon atoms, an alkyl group comprising 1 to 6 carbon atoms, an alkenyl group comprising 1 to 6 carbon atoms, an acrylic group or an alkyl acrylic group.

14. (Currently Amended) A solar cell module as set forth in claim 37 comprising one or more solar cells, an adhesive, and an encapsulant wherein said liquid silicone encapsulant composition comprises a resin fraction of between 30% and 50% ~~20% to 90%~~ by weight and said silicone adhesive composition ~~adhesive~~ comprises a resin fraction of between from 20% and to 30% by weight.

15. (Currently Amended) A solar cell module in accordance with claim 14 wherein said silicone encapsulant cures without releasing volatiles.

16. (Currently Amended) A solar cell module in accordance with claim 14 wherein said silicone encapsulant and/or silicone adhesive exhibits a light transmission substantially equivalent to glass.

17. (Currently Amended) A solar cell module in accordance with claim 14 wherein said one or more solar cells is pre-treated prior to adhesion and/or encapsulation with a silane of the formula:



wherein R¹ is an alkyl group comprising 1 to 6 carbon atoms, R² is selected from the group of an alkoxy group comprising 1 to 6 carbon atoms, an alkyl group comprising 1 to 6 carbon atoms, an alkenyl group comprising 1 to 6 carbon atoms, an acrylic group or an alkyl acrylic group.

18. (Withdrawn) A continuous solar cell module encapsulation process comprising the steps of uniformly applying by spraying, coating or dispensing a predetermined volume of a liquid silicone encapsulant composition onto a solar cell module and curing the encapsulant composition thermally or by infrared radiation.

19. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein the encapsulant composition comprises:

Component (A) 100 parts by weight of a liquid diorganopolysiloxane having at least two Si-alkenyl groups per molecule and a viscosity at 25°C of from 100 to 15,000 mPa.s;

Component (B) 20 to 50 parts by weight of a silicone resin containing at least two alkenyl groups;

Component (C) a cross-linking agent in the form of a polyorganosiloxane having at least two silicon-bonded hydrogen atoms per molecule, in an amount such that the ratio of the number of moles of silicon-bonded hydrogen to the total number of moles of silicon-bonded alkenyl groups is from 0.1: 1 to 5: 1; and

Component (D) a hydrosilylation catalyst wherein the amount of metal in said hydrosilylation catalyst is from 0.01 to 500 parts by weight per 1,000,000 parts by weight of component (A)

20. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein the encapsulant composition is cured in a continuous oven.

21. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein the layer resulting from the encapsulant composition is a uniform thin film coating having a thickness ranging from 20 µm to 1200 µm.

22. (Withdrawn) A continuous solar cell module encapsulation process in accordance

with claim 18 wherein a liquid silicone adhesive is applied on to the solar cell module and cured prior to the introduction of the encapsulant composition.

23. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 22 wherein the liquid silicone adhesive comprises:

Component (Ai) 100 parts by weight of a liquid diorganopolysiloxane having at least two Si-alkenyl groups per molecule and a viscosity at 25°C of from 100 to 10,000 mPa.s;

Component (Bi) 20 to 40 parts by weight of a silicone resin containing at least two alkenyl groups;

Component (Ci) a cross-linking agent in the form of a polyorganosiloxane having at least two silicon-bonded hydrogen atoms per molecule, in an amount such that the ratio of the number of moles of silicon-bonded hydrogen to the total number of moles of silicon-bonded alkenyl groups is from 0.1: 1 to 1: 1; and

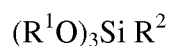
Component (Di) a hydrosilylation catalyst wherein the amount of metal in said hydrosilylation catalyst is from 0.01 to 500 parts by weight per 1,000,000 parts by weight of component (Ai).

24. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein the means of applying the encapsulant composition is adapted such that the encapsulant composition is applied in a uniform bubble-free or substantially bubble-free film on the top of a solar cell in the solar cell module.

25. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein the uniform application of the liquid silicone encapsulant composition results in a layer of the encapsulant composition and deposition of a solar cell or series of solar cells into the layer of the encapsulant composition is by automatic placement.

26. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein a thermoplastic or thermo-elastomeric material is applied to form a frame surrounding a cured module to protect edges of the cured module from water ingress.

27. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein a silane of the formula:



wherein R^1 is an alkyl group comprising 1 to 6 carbon atoms, R^2 is selected from the group of an alkoxy group comprising 1 to 6 carbon atoms, an alkyl group comprising 1 to 6 carbon atoms an alkenyl group comprising 1 to 6 carbon atoms, an acrylic group or an alkyl acrylic group; is utilised to pre-treat a solar cell or series of solar cells prior to adhesion and/or encapsulation.

28. (Cancelled)

29. (Cancelled)

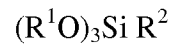
30. (Withdrawn) A solar cell module obtainable by the method claim 18.

31. (Previously Presented) A solar cell module in accordance with claim 2 wherein said semi-conductor material is selected from the group consisting of crystalline silicon, polycrystalline silicon, single crystal silicon, thin film silicon, amorphous silicon, semi crystalline silicon, gallium arsenide, copper indium diselenide, cadmium telluride, copper indium gallium diselenide, and mixtures thereof.

32. (Currently Amended) A solar cell module in accordance with claim [[1]]37 wherein said silicone encapsulant cures without releasing volatiles.

33. (Currently Amended) A solar cell module in accordance with claim [[1]]37 wherein said silicone encapsulant exhibits a light transmission substantially equivalent to glass.

34. (Currently Amended) A solar cell module in accordance with claim [[1]]37 wherein said one or more solar cells is pre-treated prior to encapsulation with a silane of the formula:



wherein R^1 is an alkyl group comprising 1 to 6 carbon atoms, R^2 is selected from the group of an alkoxy group comprising 1 to 6 carbon atoms, an alkyl group comprising 1 to 6 carbon atoms, an alkenyl group comprising 1 to 6 carbon atoms, an acrylic group or an alkyl acrylic group.

35. (Withdrawn) A continuous solar cell module encapsulation process in accordance with claim 18 wherein the encapsulant composition is applied using a curtain coater.

Please add the following new claims:

36. (New) A solar cell module comprising:

(1) a rigid or flexible superstrate;

(2) a silicone adhesive disposed on said superstrate having a viscosity of from 100 to 2,000 mPa.s at 25°C and comprising a silicone adhesive composition that is formed from:

(Ai) 100 parts by weight of a first liquid diorganopolysiloxane having at least two Si-alkenyl groups per molecule,

(Bi) 20 to 40 parts by weight of a first silicone resin containing at least two alkenyl groups,

(Ci) a first cross-linking agent in the form of a polyorganosiloxane having at least two silicon-bonded hydrogen atoms per molecule, in an amount such that the ratio of the number of moles of silicon-bonded hydrogen to the total number of moles of silicon-bonded alkenyl groups in component (Ai) is from 0.1:1 to 1:1, and

(Di) a first hydrosilylation catalyst wherein the amount of metal in said hydrosilylation catalyst is from 0.01 to 500 parts by weight per 1,000,000 parts by weight of component (Ai); and

(3) one or more solar cells disposed on said adhesive.

37. (New) A solar cell module in accordance with claim 36 further comprising:

(4) a silicone encapsulant disposed on said one or more solar cells and comprising a liquid silicone encapsulant composition that is formed from:

(A) 100 parts by weight of a second liquid diorganopolysiloxane having at least two Si-alkenyl groups per molecule and a viscosity of from 100 to 10,000 mPa.s at 25°C;

(B) 20 to 50 parts by weight of a second silicone resin containing at least two alkenyl groups;

(C) a second cross-linking agent in the form of a polyorganosiloxane having at least two silicon-bonded hydrogen atoms per molecule, in an amount such that the ratio of the number of moles of silicon-bonded hydrogen to the total number of moles of silicon-bonded alkenyl groups in component (A) is >1:1; and

(D) a second hydrosilylation catalyst wherein the amount of metal in said hydrosilylation catalyst is from 0.01 to 500 parts by weight per 1,000,000 parts by weight of component (A),

wherein said first and second liquid diorganopolysiloxanes, silicone resins, cross-linking agents, and hydrosilylation catalysts may be the same or different from each other, respectively.

38. (New) A solar cell module in accordance with claim 36 wherein said silicone adhesive exhibits a light transmission substantially equivalent to glass.